

Remarks

Claims 1, 2, 4-10, 21, 23-27 and 31-32 are pending. Claim 23 has been amended.

I. Objections to the Specification

The specification has been amended to correct the typographical error on page 6, line 8. The plural of "child" has been corrected to "children" rather than "childs." No new matter has been added.

II. Rejections under 35 U.S.C. §112

Claim 23 stands rejected under §112, first paragraph, as failing to comply with the written description requirement. Claim 23 has been amended to more clearly reflect the language of the specification. Specifically, support for the amendment may be found, for example, at page 3, lines 26-29.

III. Rejections under 35 U.S.C. § 103

Claims 1, 2, 4-10, 21, 23-27, and 31-32 stand rejected under § 103(a) as being unpatentable over U.S. Patent No. 6,279,007 to Uppala ("Uppala") in view of U.S. Patent No. 6,336,123 to Inoue et al. ("Inoue"). Applicant traverses this rejection on the grounds that these references are defective in establishing a prima facie case of obviousness with respect to rejected claims. It is submitted that, in the present case, no factual support exists to form a prima facie case of obviousness for the following, mutually exclusive, reasons.

Claims 1, 2, and 4-10

First, a prima facie case of obviousness can not be supported by the Uppala and Inoue references, because even when combined, the references do not teach the claimed subject matter. Under 35 U.S.C. § 103,

A patent may not be obtained ... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains ... (Emphasis added)

Thus, when evaluating a claim for determining obviousness, MPEP §2143.03 requires “[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art” (emphasis added).

Claim 1, as amended, recites in part, “a method of creating a relational database so that multiple simultaneous hierarchies can be defined without needing dedicated database relationships between objects in the multiple hierarchies” and “forming a second database table having a plurality of entries, each entry defining a relationship between at least some of said plurality of objects, wherein each entry is associated with at least one of the multiple hierarchies; and designating a parent-child relationship between a first object and a second object in each entry, wherein the relationship is reversible, so that the first object can be denoted as a parent to the second object in a first entry, and the second object can be denoted as a parent to the first object in a second entry.”

The cited text of Uppala and Inoue, both singly and in combination, fail to teach multiple simultaneous hierarchies, wherein each entry is associated with at least one of the multiple hierarchies. In fact, Uppala actually teaches away from Applicant's disclosure by clearly illustrating and maintaining an established hierarchical relationship between various nodes (see, e.g., Figs. 6 and 7A-7C). Inoue, likewise, teaches away from the claimed invention by disclosing a “hierarchy structure changing unit” (col. 19, line 53) for changing a linking relationship between the parent node and the child node or the group of child nodes. Thus, Inoue does not maintain multiple *simultaneous* hierarchies.

Furthermore, as the Examiner has recognized, Uppala fails to teach designating a parent-child relationship between a first object and a second object in each entry, wherein the relationship is reversible, so that the first object can be denoted as a parent to the second object in a first entry, and the second object can be denoted as a parent to the first object in a second entry. The combination of Inoue, however, fails to provide this limitation. The cited text and figures of Inoue describe changing a parent node linking relationship from one child node to *another* child node or group of nodes (FIG. 24, col. 19, lines 30-38; col. 20, lines 8-10), not reversing the relationship.

Accordingly, claim 1 is allowable over the Uppala patent in view of the Inoue patent. Claims 2 and 4-10 depend from and further limit claim 1 and are allowable over Uppala and Inoue for at least this reason.

Additionally, to establish a prima facie case of obviousness, there must be some suggestion or motivation to combine the references (MPEP §2143). Here, neither Uppala nor Inoue, teaches or even suggests, the desirability of the combination since neither teaches

multiple simultaneous hierarchies, wherein each entry is associated with at least one of the multiple hierarchies as specified above and as claimed in claim 1. Thus it is clear that neither patent provides any incentive or motivation supporting the desirability of the combination. Accordingly, claim 1 is allowable over the Uppala patent in view of the Inoue patent. Claims 2 and 4-10 depend from and further limit claim 1 and are allowable over Uppala and Inoue for at least this reason.

Claim 21

With reference to claim 21, a prima facie case of obviousness can not be supported by the Uppala and Inoue references as required by MPEP §2143.03, because even when combined, the references do not teach the claimed subject matter. Claim 21 recites, in part, designating a reversible parent-child relationship between pairs of members, wherein a first member can be denoted as a parent to a second member, and the second member can be denoted as a parent to the first member.

As described above for claim 1, the combination of Uppala and Inoue fail to teach or suggest designating a reversible parent-child relationship between pairs of members, wherein a first member can be denoted as a parent to a second member, and the second member can be denoted as a parent to the first member. In fact, Uppala actually teaches away from Applicant's disclosure by clearly illustrating and maintaining an established hierarchical relationship between various nodes (see, e.g., Figs. 6 and 7A-7C). Likewise, Inoue teaches away from the claimed invention by changing a link relationship from a parent and child node to the parent and another child node or groups of nodes (FIG. 24 & 25), not reversing a parent child relationship. Accordingly, because all limitations of claim 21 are not taught by the combination of Uppala and Inoue, claim 21 is allowable over the combination.

Claims 23-27

With reference to claims 23-27, a prima facie case of obviousness can not be supported by the Uppala and Inoue references as required by MPEP §2143.03, because even when combined, the references do not teach the claimed subject matter. Claim 23, as amended, recites in part "creating a first table having multiple entries, each entry including one of the plurality of objects and associated data to be accessed, wherein the first table associates each of the plurality of objects with an object identifier, and wherein each of the multiple entries comprise only the object identifier and the associated data." The cited text of Uppala and Inoue fail to teach wherein each of the multiple entries of the first table comprise *only* the object

identifier and the object's associated data. Uppala, in fact, teaches away from the claimed invention by identifying nodes by hierarchical value. Uppala discloses that "each node is uniquely identified by its hierarchical value, node C with hierarchical value A/B/C and node C with hierarchical value A/C are different nodes." The cited text of Inoue does not rectify the deficiency in Uppala, and accordingly, claim 23 is allowable over the Uppala and Inoue patents.

Claims 24-27 depend from and further limit claim 23 and are allowable over Uppala and Inoue for at least this reason.

Claims 31 and 32

With reference to claims 31, a prima facie case of obviousness can not be supported by the Uppala and Inoue references as required by MPEP §2143.03, because even when combined, the references do not teach the claimed subject matter. Claim 31 recites in part organizing a plurality of objects into at least first and second entries, wherein each object is related to at least one other object by a defined relationship; storing an object identifier associated with each of the plurality of objects; and storing associated data to be accessed for each object identifier, wherein the storing is performed regardless of whether the data stored in the first entry is unique with respect to the data stored in the second entry.

Uppala fails to teach or suggest each of the above recited elements, such as storing associated data to be accessed for each object identifier, wherein the storing is performed regardless of whether the data stored in the first entry is unique with respect to the data stored in the second entry. The Office Action relies on the Fig. 7A of the Uppala reference as an example to illustrate that the data associated with the entry is stored in the column labeled as "Node Value" (Office Action, p. 8, para. 4). However, Uppala actually teaches away from Applicant's disclosure by stating that Fig. 7A consists of "unique instances of node values". (emphasis added) (col. 6, lines 49-50). More specifically, Uppala discloses:

The invention uses three data structures, shown as database tables in FIGS. 7A, 7B and 7C, to manage hierarchical values: node table 700, hierarchy value table 710 and hierarchy parent table 720. The node table 700 consists of unique instances of node values collected from all hierarchical values present in the tree 600. For each unique node value, the invention uses a first hashing algorithm to generate a node hash value 705 that identifies a row 701 in the node table 700. The invention assigns a unique node identifier 703 to the node value and stores the node identifier 703, the node hash value 705, and the node value 707 in the row 701 identified by the node hash value 705. (col. 6, lines 46-58) (emphasis added)

Therefore, Uppala discloses a unique node value for each row of the table in Fig. 7A. In contrast, Applicant's claim 31 recites storing associated data to be accessed for each object identifier, wherein the storing is performed regardless of whether the data stored in the first entry is unique with respect to the data stored in the second entry. The combination of Inoue with Uppala does not supply the missing claim limitations recited above. Accordingly, the combination of Uppala and Inoue fail to teach or suggest the above recited elements of claim 31 as required by MPEP § 2143.03, and claim 31 is therefore in a condition for allowance. Claim 32 depends from and further limits claim 31 and is allowable over Uppala for at least this reason.

II. Conclusion

Therefore, it is respectfully submitted that independent claims 1, 21, 23, and 31 are in condition for allowance. Dependent claims 2, 4-10, 24-27, and 32 depend from and further limit their respective independent claims and therefore are allowable as well.

Should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, the Examiner is invited to telephone the undersigned at the below listed telephone number.

Respectfully submitted,

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